



Electronic Filing System (EFS) Data  
Electronic Patent Application Submission  
USPTO Use Only

EFS ID: 50100  
Application ID: 10619057  
Title of Invention: Method and Apparatus for  
Improving Signal-To-Noise Ratio  
for Hard Disk Drives  
First Named Inventor: Edward Harris  
Domestic/Foreign Application: Domestic Application  
Filing Date: 2003-07-14  
Effective Receipt Date: 2003-11-03  
Submission Type: Information Disclosure  
Statement  
Filing Type:  
Confirmation number: 6888  
Attorney Docket Number: 075903-199



Total Fees Authorized:


Digital Certificate Holder: cn=John L. DeAngelis,ou=Registered Attorneys,ou=Patent and  
Trademark Office,ou=Department of Commerce,o=U.S. Government,c=US  
Certificate Message Digest: 04ea27130b78a7877287026b221ff2e49abf4429



# TRANSMITTAL

Electronic Version v1.1

Stylesheet Version v1.1.0


| <b>Title of<br/>Invention</b>  | <b>Method and Apparatus for Improving Signal-To-Noise Ratio for Hard<br/>Disk Drives</b> |                |                           |             |                |  |                          |            |  |            |
|--|--|----------------|---------------------------|-------------|----------------|--|--------------------------|------------|--|------------|
| <p>Application Number: 10/619057 </p> <p>Date: 2003-07-14</p> <p>First Named Applicant: Edward B. Harris</p> <p>Confirmation Number: 6888</p> <p>Attorney Docket Number: 075903-199</p>  |  |                |                           |             |                |  |                          |            |  |            |
| <p>I hereby certify that the use of this system is for OFFICIAL correspondence between patent applicants or their representatives and the USPTO. Fraudulent or other use besides the filing of official correspondence by authorized parties is strictly prohibited, and subject to a fine and/or imprisonment under applicable law.</p> <p>I, the undersigned, certify that I have viewed a display of document(s) being electronically submitted to the United States Patent and Trademark Office, using either the USPTO provided style sheet or software, and that this is the document(s) I intend for initiation or further prosecution of a patent application noted in the submission. This document(s) will become part of the official electronic record at the USPTO.</p> |  |                |                           |             |                |  |                          |            |  |            |
| <table border="1"><thead><tr><th>Submitted by:</th><th>Elec. Sign.</th><th>Sign. Capacity</th></tr></thead><tbody><tr><td>John L. DeAngelis Jr.<br/>Registered Number: 30,622</td><td>/John L. DeAngelis, Jr./</td><td>Attorney</td></tr></tbody></table>  |  |                | Submitted by:             | Elec. Sign. | Sign. Capacity | John L. DeAngelis Jr.<br>Registered Number: 30,622 | /John L. DeAngelis, Jr./ | Attorney   |  |            |
| Submitted by:  | Elec. Sign.  | Sign. Capacity |                           |             |                |  |                          |            |  |            |
| John L. DeAngelis Jr.<br>Registered Number: 30,622   | /John L. DeAngelis, Jr./   | Attorney       |                           |             |                |  |                          |            |  |            |
| <table><tr><td>Documents being submitted</td><td>Files</td></tr><tr><td>us-ids</td><td>Agere199-usidst.xml</td></tr><tr><td></td><td>us-ids.dtd</td></tr><tr><td></td><td>us-ids.xsl</td></tr></table>   |  |                | Documents being submitted | Files       | us-ids         | Agere199-usidst.xml                                |                          | us-ids.dtd |  | us-ids.xsl |
| Documents being submitted  | Files  |                |                           |             |                |  |                          |            |  |            |
| us-ids   | Agere199-usidst.xml  |                |                           |             |                |  |                          |            |  |            |
|  | us-ids.dtd   |                |                           |             |                |  |                          |            |  |            |
|  | us-ids.xsl   |                |                           |             |                |  |                          |            |  |            |
| <b>Comments</b>  |  |                |                           |             |                |  |                          |            |  |            |



## ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

| Title of Invention   | Method and Apparatus for Improving Signal-To-Noise Ratio for Hard Disk Drives |   |            |                 |      |       |          |
|--|---|---|------------|-----------------|------|-------|----------|
| Application Number: 10/619057  |   |  |            |                 |      |       |          |
| Confirmation Number: 6888  |   |   |            |                 |      |       |          |
| First Named Applicant: Edward Harris   |   |   |            |                 |      |       |          |
| Attorney Docket Number: 075903-199   |   |   |            |                 |      |       |          |
| Art Unit: 2651   |   |   |            |                 |      |       |          |
| Search string: ( 4841502 or 4926408 or 4972396 or 4998238 or 5161137 or 5263008 or 5327417 or 5448539 or 5469418 or 5568454 or 5602693 or 5631893 or 5796557 or 6163439 or 6172836 or 6181504 or 6204660 ).pn. |   |   |            |                 |      |       |          |
| <h3>US Patent Documents</h3>   |   |   |            |                 |      |       |          |
| Note: Applicant is not required to submit a paper copy of cited US Patent Documents  |   |   |            |                 |      |       |          |
| init   | Cite.No.  | Patent No.  | Date       | Patentee        | Kind | Class | Subclass |
|  | 1   | 4841502   | 1989-06-20 | Murakami, et al |      |       |          |
|  | 2   | 4926408   | 1990-05-15 | Murakami, et al |      |       |          |
|  | 3   | 4972396   | 1990-11-20 | Rafner          |      |       |          |
|  | 4   | 4998238   | 1991-03-05 | Mizunoe, et al  |      |       |          |
|  | 5   | 5161137   | 1992-11-03 | Suzuki          |      |       |          |
|  | 6   | 5263008   | 1993-11-16 | Fujio, et al    |      |       |          |
|  | 7   | 5327417   | 1994-07-05 | Tanaka, et al   |      |       |          |
|  | 8   | 5448539   | 1995-09-05 | Kamioka         |      |       |          |
|  | 9   | 5469418   | 1995-11-21 | Satoh, et al    |      |       |          |
|  | 10  | 5568454   | 1996-10-22 | Shima, et al    |      |       |          |
|  | 11  | 5602693   | 1997-02-11 | Brunnett, et al |      |       |          |
|  | 12  | 5631893   | 1997-05-20 | Kang, et al     |      |       |          |
|  | 13  | 5796557   | 1998-08-18 | Bagnell, et al  |      |       |          |
|  | 14  | 6163439   | 2000-12-19 | Jeong           |      |       |          |
|  | 15  | 6172836   | 2001-01-09 | Bang            |      |       |          |

|  |    |         |            |     |
|--|----|---------|------------|-----|
|  | 16 | 6181504 | 2001-01-30 | Ahn |
|  | 17 | 6204660 | 2001-03-20 | Lee |

Signature

|               |      |
|---------------|------|
| Examiner Name | Date |
|               |      |